DOCUMENT RESUME

ED 419 860 UD 032 333

AUTHOR	Wang, Margaret C.; Haertel, Geneva D.; Walberg, Herbert
TITLE	Educational Practices and Policies That Promote Achievement. Publication Series No. 7.
INSTITUTION	Mid-Atlantic Lab. for Student Success, Philadelphia, PA.; National Research Center on Education in the Inner Cities, Philadelphia, PA.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO	L96-7
PUB DATE	1996-00-00
NOTE	52p.
AVAILABLE FROM	Electronic version: http://www.temple.edu/LSS
PUB TYPE	Reports - Evaluative (142)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Academic Achievement; Attitudes; Educational Assessment; Educational Change; Educational Policy; *Educational Practices; Learning; *Performance Factors; *Researchers; *Standards; Surveys; Tables (Data); *Teachers

ABSTRACT

This paper identifies research findings from a study on researcher and practitioner views of the relative effects of policies and practices on learning and the degree to which the implementation of what they view as important policy and practice influences on learning can be assessed and can serve as a basis for educational reform. It was designed to compile a database on research findings, expert knowledge, and educators' judgments and aimed to identify implementation standards for the delivery of standards-based reforms. A framework of 228 influences on student learning was organized into 6 theoretical constructs and used to revise a survey previously developed to determine educational researcher and administrator attitudes. Of the total of 3,141 surveys mailed, 1,818 were returned. Results show substantial agreement between researchers' and administrators' views on the relative influences of educational policies and practices. Such consensus assures that a knowledge base of successful programs can be used to help improve academic achievement. Results suggest that instruction, curriculum, and school-wide practices have considerably stronger learning influences than federal, state, and district policies. Many highly influential practices and few highly influential policies can serve as promising candidates for educational reform since both researcher and administrator groups concur about their efficacy. Especially promising are the policies agreed on as high influence and highly assessable. Item influence and assessability ratings might be useful in identifying delivery standards, local program development, the development of accountability measures, monitoring program implementation, and identifying and designing outcomes for use in summative evaluation. (Contains 2 figures, 9 tables, and 28 references.) (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

Laboratory for Student Success

ED 419 860

Educational Practices and Policies That Promote Achievement

by
Margaret C. Wang, Geneva D. Haertel, and Herbert Walberg

1996
Publication Series No. 7

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

J. Shafer
Temple U-CRHDE

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

The Mid-Atlantic Regional Educational Laboratory at Temple University
Center for Research in Human Development and Education

Educational Practices and Policies That Promote Achievement

by
Margaret C. Wang, Geneva D. Haertel, and Herbert Walberg

1996
Publication Series No. 7

The research reported herein is supported in part by the Office of Educational Research and Improvement (OERI) of the U.S. Department of Education through a grant to the Mid-Atlantic Laboratory for Student Success (LSS) at the Temple University Center for Research in Human Development and Education (CRHDE). The opinions expressed do not necessarily reflect the position of the supporting agencies, and no official endorsement should be inferred.

ED032333

Research and practitioner knowledge about what makes learning effective can help improve educational policies and practices. New understandings about how children learn can contribute to such challenges as upgrading the nation's teaching corps, setting opportunity standards, and generally enhancing the academic performance of the nation's children and youth. Such challenges underscore the need to bring what is known about learning to the national agenda of educational reform.

A gap separates what is known about learning and what educators actually do. One reason for this gap is that knowledge about effective practices and policies is not accessible to field-based professionals in useful and usable forms. This paper identifies research findings from a study on researcher and practitioner views of the relative effects of policies and practices on learning, and the degree to which the implementation of what they view as important policy and practice influences on learning can be assessed and can serve as a basis for educational reform.

The Context of Educational Reform

Standard setting has become the most visible activity in the current wave of educational reform. In fact, in his seminal handbook chapter on standards, Roth (1996) has described the past two decades as the "Era of Standards." Beginning with the National Council of Teachers of Mathematics' (1989) *Curriculum and Evaluation Standards for School Mathematics*, professional education organizations have developed content standards that influence curricula, instruction, and assessment practices in mathematics, science, language arts, history, and geography. The U.S. Department of Education regards standard setting as central to achieving the National Education Goals. For example, both the Goals 2000: Educate America Act and the new Title I legislation require that each state establish standards for student achievement and focus educational reform efforts around achieving them. Another example is the National Assessment of Educational Progress (NAEP), which aligned its mathematics assessment to the NCTM standards (Gandal, 1995).

Over the life of the educational reform movement numerous types of standards have emerged. Roth (1996) cites Diez (1994) who identified seven types of standards: content, student performance, delivery,

opportunity, assessment, instructional, and standards for standards. Content standards identify the knowledge and skills that students must master, student performance standards identify the degree of competency that must be demonstrated for each content standard, and school delivery standards identify criteria indicating whether a school provides students with the "opportunity to learn" the material identified in the content standards. System delivery standards address the quality of the district, state, or federal systems' capability to educate all students as specified in the content standards. Systemic reform, presumably, coordinates these different types of standards in order to attain its goal of improved learning for all students (Smith, Fuhrman, & O'Day, 1994).

Standard-based reform is clearly reflected in Title I of the 1994 reauthorization of the Elementary and Secondary Education Act of 1965 (ESEA), entitled the Improving America's School's Act (IASA). Designed to provide at-risk children with the tools necessary to meet challenging academic standards, the Title I legislation emphasizes the alignment of various components of the educational system, including curriculum and instruction, professional development and accountability. Schools that receive Title I funds must demonstrate the inclusion of challenging content and performance standards into their educational plan. These standards are aimed at broadening disadvantaged children's knowledge and skills bases. Central to the legislation's goal of bolstering children's academic performance is the improvement of teaching and learning.

An unique feature of the Title I program in IASA is its schoolwide project provision. This provision expands the Title I program to more efficiently meet the diverse needs of students who are educationally at risk by lowering the minimum poverty level necessary for a school to qualify for Title I funds. The goal is to integrate the programs and resources of each school by allowing its funding to be pooled with additional monies to make institutional and comprehensive change. Teaching and professional development are key components of the 1994 legislation's goal of creating more equitable learning opportunities for children who are in circumstances that place them at risk of school failure. In keeping with the law's emphasis

on equitable opportunities for all students, special provisions are made to (a) giving primary consideration to extended-time strategies; (b) drawing from the research on effective teaching and learning techniques; (c) incorporating accelerated curricula and effective instructional strategies; (d) strong coordination with the regular program; and (e) use of highly qualified and trained staff. In addition, Title I focuses on increased parental involvement, school-linked services and integration of the supplemental educational programs. It further stresses the need for local and inclusive planning and decision-making, thereby empowering members of the local school community to apply their funding to their individual needs. This increase in flexibility, coupled with a greater responsibility for improved student performance, creates the need for innovative and reliable strategies to achieve high-quality standard-based improvements at the district and school level.

The present study, designed to compile a database on research findings, expert knowledge, and educators' judgments, aims to identify implementation standards for the delivery of standard-based reforms. To implement such standards, educators must first identify the content and student performance standards they expect children to meet. Second, they must determine what teacher actions, instructional practices, student pursuits, and schoolwide policies should be implemented to guarantee that all students will have an opportunity to achieve the performance standards. It is expected that implementation of student performance and school delivery standards can result in increased effectiveness and efficiency. Furthermore, systemic documentation of such implementations should provide critical information about the design of programs to achieve such delivery and outcome standards.

It is in this context of contributing to the procedural knowledge on standard-based program delivery that the present survey study was developed. Research findings provide one foundation for developing opportunity to learn standards. Further guidance can be obtained through the expert judgments of both researchers and practitioners. Their knowledge about what influences students' learning can be compared to assess the correspondence of expert and practitioner views. Strong agreement in the judgments of these

groups would lend confidence to making their combined judgments of effectiveness a basis for selecting reform strategies.

The Study Design: A Conceptual Framework

The conceptual framework for the present survey study on educational policies and practices that promote achievement was drawn from the extant research base identified in prior research syntheses. Some of these syntheses compared the relative effectiveness of multiple influences on learning, whereas others focused on the effectiveness of specific instructional practices.

Syntheses of Multiple Influences on Learning

Walberg, Schiller, and Haertel (1979) published one of the first quantitative syntheses of research on teaching. The authors collected reviews published between 1969 and 1979 on the impact or association of instructional variables on students' cognition, affect, and behavior. Among the instructional practices synthesized were: time on task, mastery learning, psychological incentives, open versus traditional classrooms, and advance organizers. Nearly two- thirds of the effect sizes or correlations synthesized were positive, indicating that many well-established educational practices promote student achievement. In addition, in a systematic examination of 19 reviews of teaching process-student outcome research, Waxman and Walberg (1982) identified instructional processes related to student learning. They identified the following practices as positively associated with student learning: cognitive engagement, motivational incentives, pupil involvement in learning, reinforcement, and classroom management and climate.

In 1987 a special issue of the *International Journal of Educational Research* was dedicated to an extensive review of research by Fraser and colleagues on influences related to school learning. They summarized results of over 2,000 bivariate studies spanning 50 years of research in the United States and abroad. In this special issue, Fraser et al. (1987) presented a meta-review of 135 meta-analyses in which school achievement was an outcome, and 92 meta-analyses with student attitude as an outcome. Among the influences examined were contextual factors, including student and teacher characteristics, curriculum

materials, facilities and equipment, home environment, and school climate. Aptitudinal, instructional, and environmental factors that consistently exhibited strong influences on academic achievement were identified.

Wang, Haertel, and Walberg (1993) synthesized ratings of 61 research experts, 91 meta-analyses, and 179 handbook chapters and narrative reviews representing approximately 11,000 statistical relationships. Results confirmed the primacy of student characteristics, instruction, and home and community influences on academic learning. More distal variables, such as state and district policy, were shown to be less influential.

The dramatic pattern of overall positive results reported in the research syntheses above is characteristic of results from quantitative syntheses and meta-analytic reviews. This pattern of results is not an artifact of meta-analysis nor can it be attributed to a generalized placebo effect (Lipsey & Wilson, 1993).

Syntheses of Specific Instructional Practices that Influence Learning

Since the mid-1970s many quantitative research syntheses have been conducted on specific instructional practices. Among the specific instructional practices that have been found to consistently improve academic learning are: degree of curriculum articulation and organization; sufficient classroom materials to support the instructional program; maximized learning time; high student expectations; opportunities for students to give extended oral and written responses; degree of classroom engagement; student participation in goal setting and instructional decision-making; opportunities for students to receive intensive instruction in one-on-one or tutoring arrangements; engagement in cooperative learning; frequent assessment; and a home environment that supports learning (Fraser et al., 1987; Lipsey & Wilson, 1993; Wang et al., 1993).

Individual meta-analyses on which these syntheses are based concern computer aided/based instruction (Kulik & Kulik, 1987; Ryan, 1991); programmed or individualized instruction (Bangert, Kulik, & Kulik, 1983); cooperative task structures (Johnson, Johnson, & Maruyama, 1983; Johnson, Maruyama,

Johnson, Nelson, & Skon, 1981); student tutoring (Cohen, Kulik, & Kulik, 1982; Cook, Scruggs, Mastropieri, & Casto, 1986); behavioral objectives, reinforcement, cues, and feedback (Lysakowski & Walberg, 1982); mastery learning (Guskey & Pigott, 1988); home environment (Graue, Weinstein, & Walberg, 1983); technology-based instructional strategies (Shwalb, 1987; Williams, 1990); reading instruction strategies (Pflaum, Walberg, Karegianes, & Rasher, 1980); whole-language approach (Stahl & Miller, 1989), vocabulary instruction (Klesius & Searls, 1990; Stahl & Fairbanks, 1986), and bilingual instruction (Willig, 1985).

Summary

These syntheses support the primacy of student characteristics, instructional practices, and home and community influences on student learning. Based on these results, a theoretical framework comprised of 228 influences on student learning and organized within six theoretical constructs: (a) State and District Governance and Organization; (b) Home and Community Educational Contexts; (c) School Demographics, Culture, Climate, Policies, and Practices; (d) Design and Delivery of Curriculum and Instruction; (e) Classroom Instructional Practices; and (f) Student Characteristics. This framework was updated and refined for purposes of this research (see Wang et al. [1993] for a detailed description of the previous framework and theoretical constructs).

Method

Item Selection

The 146 survey items used in the present survey study were drawn from an earlier 228-item survey that was used to rate influences on learning (Reynolds, Wang, and Walberg, 1992). Those items that were selected focused on classroom practices, schoolwide practices and policies, curriculum design and delivery, and district, state, and federal policies. Some of these items were revised and tailored for the purposes of this study.

Construction of Rating Scales

Two Likert rating scales were constructed: degree of influence on learning and assessability. For purposes of this research, influence on learning is defined as the degree to which students acquisition of knowledge, skills, attitudes and values is affected by educational practices and policies. The three-point rating scale is presented below:

1 = Little or no influence on learning

2 = Moderate influence on learning

3 = Strong influence on learning

Assessability is defined as the extent to which the presence or absence of the policy or practice can be ascertained by direct observations, archived documents, or other means. The following rating scale was utilized to rate assessability:

1 = Not assessable

2 = Fairly assessable

3 = Very assessable

Background Information and Item Assignment Into Categories

Different background items were prepared for each of the two groups, educational researchers and administrators. Researchers were asked to identify their primary research interest (e.g., administration and curriculum studies) and gender; educational administrators were asked to identify their current position (e.g., principal or superintendent), gender, the type of school administered (e.g., elementary or middle school), and the location of schools or districts (e.g., urban or suburban).

Three independent judges classified the 146 items into four categories: Classroom Practices (70 items); Schoolwide Practices and Polices (39 items); Curriculum Design and Delivery (16 items); and Federal, State, and District Policies (21 items). To save respondents time and promote high return rates, the

146 items on the survey were randomly divided into three forms, so that each recipient received a survey with no more than 50 items drawn from each of the four categories.

Sample Selection

Eight samples were drawn from the following six organizations: American Educational Research Association (AERA) Divisions A (Administration), C (Learning and Instruction), and H (Evaluation); National Association of Elementary School Principals (NAESP), and National Association of Secondary School Principals (NASSP); American Association of School Administrators (AASA), Council of the Great City Schools (CGCS); and Council of Chief State School Officers (CCSSO). Membership lists were used to draw random samples for each organization. In two of the organizations (CCSSO and CGCS) every member was sampled because of their small universes. In the other four organizations (AASA, NAESP, NASSP, and AERA) random samples without replacement were drawn.

Mail surveys were sent to all recipients in November 1993; non-respondents were sent a follow-up survey in January 1994. Survey directions requested that participants rate each item in terms of its influence on student learning and assessability.

Results

Survey Return Rates

Table 1 presents the number of recipients and percent return for each professional group and for the total sample on the original and follow-up mailings. Before combining the original and follow-up survey data, Chi-square analyses were calculated. For each of the three forms of the survey, chi squares were calculated to test differences among return rates by original and follow-up mailings for: males and females; membership in professional groups for researchers (AERA Divisions A, C, and H); and membership in professional groups for administrators (NAESP, NASSP, AASA, CGCS, and CCSSO). Of the 12 Chi-squares calculated only one was significant, male versus female researchers on Form 1 of the survey ($x^2=6.48$, $df=1$, $p<.01$). These results suggest that the 42% of the sample that never replied may not differ

much from the 58% that did, allowing for change in address, loss in the mail, and other reasons. Because there was only an isolated significant difference, and in light of the moderately high return rate for the survey, the data from the original and follow-up mailings were combined

---

Insert Table 1 about here

High Agreement between Researchers and Administrators on the Influence of Practices

The three AERA Divisions (A, C, and H) were grouped together as "Researchers" and the AASA, CCSSO, CGCS, NAESP, and NASSP respondents were grouped as "Educational Administrators." Averages of the item ratings were calculated for the researcher and the administrator groups. The correlations presented in Table 2 show very high agreement between the researcher and administrator ratings of influence ($r=.87$, $p< .01$) and ratings of assessability ($r=.68$, $p<.01$). This suggests that the research community has been particularly adept in communicating the knowledge base on effective practices and policies to the school community, and that there is substantial consensus between the two groups on the relative influences of specific policies and practices and the degree to which they can be assessed. Since there is substantial agreement between researchers and administrators justifies a closer examination of their rankings of influence across the four categories as well as the specific policies and practices within each area, as discussed in subsequent sections.

Insert Table 2 about here

Average Influence and Assessability Ratings by Category

Table 2 shows the average influence and assessability ratings for all respondents for each of the four categories for influence on learning and assessability. These averages show the strong influence of

proximal influences on the learner, namely classroom, schoolwide, curricular, and delivery practices. By contrast, the respondents saw federal, state, and district policies as relatively weak. Ironically, however, the respondents saw the extramural policies as more assessable than the proximal influences.

Insert Table 3 about here

Differences Among Professional Groups

Ten one-way analyses of variance (ANOVA) were conducted to determine whether there were differences in average influence and assessability ratings among the eight professional groups. As shown in Table 3, all ANOVAs were statistically significant ($p<.0001$) indicating variations in the degree of influence perceived by the groups. As shown in Figure 1, the three researcher groups (AERA Divisions A, C, and H) rated practices and policies in each of the four categories, as less influential than did the five administrator groups (AASA, CCSSO, CGCS, NAESP and NASSP).

Insert Table 4 and Figure 1 about here

Four of the five ANOVAs for assessability were significant: Classroom Practices ($p<.0001$); Schoolwide Practices ($p<.0001$); Federal, State, and District Policies ($p. <.0001$); and total ($p<.003$). As shown in Figure 2, the researcher groups rated the Federal, State, and District Policies as more assessable than did the administrator groups. In general, elementary and secondary school principals rated Classroom Practices and Schoolwide Practices as more assessable than did the other groups of administrators and researchers.

Insert Figure 2 about here

Specific Influence Ratings

Average influence ratings for each item within each of the four categories are presented in Tables 5-8. The highest quartile is comprised of items with average ratings equal to or above 2.52; such items are indicated in the tables.

Insert Tables 5-8 about here

As shown in Table 5, the highest quartile of influence ratings contained 18 of the 70 Classroom Practice items. These items focus on the teacher in the central classroom role, a cognitively challenging environment; and on the frequency and nature of teacher-student interactions about the learning activity.

Table 6 shows that, of the 39 Schoolwide Practice items, 11 were in the highest quartile. These items include: a safe, orderly, positive, and academically-oriented school climate; parent involvement programs; guarding of student instructional time; collaboration and shared decision-making among staff and administrators; and low staff alienation and absenteeism.

Table 7 shows that four of the 16 Curriculum Design and Delivery items were in the highest quartile. Curriculum-related practices were perceived as influential when they are sensitive to students' cognitive needs, but less influential when they are responsive to students' interests, preferences, and cultural backgrounds. Highly influential items focus on alignment of curriculum content, instruction, and assessment; tailoring the content to students' cognitive capabilities and prior knowledge; and availability of materials and activities for different instructional groupings.

As show in Table 8, of the 21 Federal, State, and District Policy items, only two were in the highest quartile of influence: central office and board of education support. This finding indicates that the most influential policies are manifested in the form of local resources and assistance for school programs.

Specific Assessability Ratings

Average assessability ratings for each item within each of the four categories are also presented in Tables 5-8. The highest quartile of assessability is comprised of items with average ratings equal to or above 2.34.

Classroom practice items (Table 5) ranked as most assessable concerned observable features of classroom environments and the presence or absence of particular practices. They include, for example, resources and instructional and grouping practices, such as size of instructional groups, well-organized lessons, frequent and corrective feedback, explicit expectations of content mastery, computer-assisted instruction, and frequent measurement of basic skills. Items related to judgments of teacher style, such as encouragement or discouragement, enthusiasm, or other personality features were rarely ranked in the highest quartile.

Only seven of the 39 Schoolwide Practice items were rated as highly assessable (Table 6). Assessable items were those that were easy to judge—a safe, orderly school climate, school size, explicit schoolwide policies, and low staff absenteeism and turnover. The remaining 32 items, which were judged as less assessable, were those that require evidence of consensus, positive attitudes, and other less observable practices among school staff and students (e.g., schoolwide activities to promote positive, nondisruptive behaviors; a positive attitude toward school, teacher, and subject matter; and promotion of student self-esteem and self-confidence).

Eight of 16 Curriculum Design and Delivery items (Table 7) were highly assessable. They focused on tangible features of curriculum materials and the delivery of curriculum content within the classroom environment. The attributes of materials that were judged most assessable include the presence of specific

objectives, assessments, and activities tailored to different instructional groupings and students' cognitive and academic needs. The most assessable aspects of the delivery of curriculum content are features and practices that are directly observable, including the availability of sufficient materials, human resources, and procedures for effective behavioral and cognitive management.

Of the 21 Federal, State, and District Policies, ten items were in the highest quartile of assessability (Table 8). Most of these items were judged highly assessable because the presence or absence of a federal, state, or district policy can generally be detected either through document review or minimal data collection. Central office and board of education assistance and support for school programs, were judged as highly influential but not highly assessable. This may be because support for school programs consists of a large variety of forms, including provision and training of personnel, tangible resources (e.g., materials, space), intangible resources (e.g., expertise, reinforcement, sponsorship), as well as fiscal assistance. This complexity reduces the ease of assessability.

Joint Ratings of Influence and Assessability

A fourfold table was created to further analyze the items within the highest and lowest quartiles in each of the four categories. Table 9 displays items in the following four cells: high influence-high assessability, high influence-low assessability, low influence-high assessability, and low influence-low assessability.

Insert Table 9 about here

The primary findings of this analysis are that classroom practices, and to a somewhat lesser degree, schoolwide practices and curriculum design and delivery, have high influence on student learning and are readily assessable. Federal, state, and district policies were judged to have little influence on student learning, although they are also readily assessable.

Although researchers and administrators can agree on whether specific practices and policies are influential and whether they are assessable, these groups differ in their judgment of the relationship between the influence and assessability of specific practices and policies. The correlation between influence and assessability ratings for researchers is near zero ($r=-.03$, $p>.10$) whereas administrators judgments were moderately correlated ($r=.52$, $p< .01$). A possible reason for this difference is that researchers are less optimistic about the assessability of many practices and policies.

Conclusions

The results show substantial agreement between researchers' and administrators' views on the relative influences of educational policies and practices. Such consensus gives a measure of assurance that a knowledge base on what works might be exploited to assist in the national goal, expressed by many groups, for substantially improving academic achievement.

The results suggest that instruction, curriculum, and school-wide practices have considerably stronger learning influences than do federal, state, and district policies. This seems an irony since much educational reform has been imposed by state legislatures and has concerned such governance and organization innovations as charter schools, public school choice, and school-site management. Though the average influence ratings differ across the four categories--classroom practices, school practices, curriculum design and delivery, and extramural policies, specific practices and policies vary considerably within these groups as shown in the detailed tables (Tables 5-9). Many highly influential practices and few highly influential policies can serve as promising candidates for educational reform since both research and administrator groups concur about their efficacy.

Especially promising are highly influential-highly assessable practices since they are not only effective but observable. Those that are effective but less assessable deserve high priority for systematic development and validation of observation, rating, and other means of assessment by research workers. While the eight groups of researchers and administrators agree on the relative size of the influences,

researchers are less sanguine about the size of the effects. Administrators may be somewhat more optimistic than researchers because they must often advocate innovations and because it is often their job to employ observation and rating scales to evaluate teachers and programs

To our knowledge, the present survey is the first of its kind. It represents in compact form a considerable amount of expert knowledge and administrator judgment about what works to improve achievement. Along with previous efforts to synthesize research, it may serve as one basis for planning education reforms.

Specifically, the survey results can guide site-specific efforts to reform classroom and school practices and district, and state policies. The knowledge base on effective practices and policies, such as those found in the present survey study, is an existing resource that has significant implications for improving current practices to meet the legislative mandates, such as the Title I program, to significantly improve the learning of all students, including and particularly those requiring greater-than-usual support such as those served by Title I. Item influence and assessability ratings might be found useful in identifying delivery standards, local program development, the development of accountability measures, monitoring program implementation, and identifying and designing outcomes and indicators for use in summative evaluations. Though it can be hoped that the items might be widely useful for such purposes, educators would have to determine which survey items are most useful given their circumstances. In addition to considering the influence and assessability ratings, they would need to judge which of the practices and policies are most suitable the economic, philosophical, political, and cultural climate of their communities.

References

Bangert, R. L., Kulik, J. A., & Kulik, C. C. (1983). Individualized systems of instruction in secondary schools. Review of Educational Research, 53, 143-158.

Cohen, P. A., Kulik, J. A., & Kulik, C. C. (1982). Educational outcomes of tutoring: A meta-analysis of findings. American Educational Research Journal, 19, 237-248.

Cook, S. B., Scruggs, T. E., Mastropieri, M. A., & Casto, G. C. (1986). Handicapped students as tutors. Journal of Special Education, 19, 483-492.

Diez, M. E. (1994). Relating standards to systemic reform. In M. E. Diez, Z. Richardson, & P.D. Pearson (Eds.), Standards and educating teachers: A national conversation. A report from the Wingspread Conference, November 1-4, 1993 (pp. 1-14). Washington, DC: American Association of College Teachers of Education.

Fraser, B. J., Walberg, H. J., Welch, W. W., and Hattie, J. A. (1987). Syntheses of educational productivity research. International Journal of Educational Research, 11, 145-252.

Gandal, M. (1995). Not all standards are created equal. Educational Leadership, 52(6), 16-21.

Graue, M. E., Weinstein, T., & Walberg, H. J. (1983). School-based home instruction and learning: A quantitative synthesis. Journal of Educational Research, 76, 351-360.

Guskey, T. R., & Pigott, T. D. (1988). Research on group-based mastery learning programs: A meta-analysis. Journal of Educational Research, 81, 197-216.

Johnson, D. W., Johnson, R. T., & Maruyama, G. (1983). Interdependence and interpersonal attraction among heterogeneous and homogeneous individuals: A theoretical formulation and a meta-analysis of the research. Review of Educational Research, 53, 5-54.

Johnson, D. W., Maruyama, G., Johnson, R., Nelson, D., & Skon, L. (1981). Effects of cooperative, competitive, and individualistic goal structures on achievement: A meta-analysis. Psychological Bulletin, 89, 47-62.

Klesius, J. P., & Searls, E. F. (1990). A meta-analysis of recent research in meaning vocabulary instruction. Journal of Research and Development in Education, 23, 226-235.

Kulik, J. A., & Kulik, C-L. C. (1987). Review of recent research literature on computer-based instruction. Contemporary Educational Psychology, 12, 222-230.

Lipsey, M. W. & Wilson, D. B. (1993). The efficacy of psychological, educational, and behavioral treatment: Confirmation from meta-analysis. American Psychologist, 48(12), 1181-1209.

Lysakowski, R. S., & Walberg, H. J. (1982). Instructional effects of cues, participation, and corrective feedback: A quantitative synthesis. American Educational Research Journal, 19, 578-599.

National Council of Teachers of Mathematics. (1989). Curriculum and evaluation standards for school mathematics. Reston, VA: Author.

Pflaum, S. W., Walberg, H. J., Karegianes, M. L., & Rasher, S. P. (1980). Reading instruction: A quantitative analysis. Educational Researcher, 9(7), 12-18.

Reynolds, M. C., Wang, M. C., & Walberg, H. J. (1992). The knowledge bases for special and general education. Remedial and Special Education, 13(5), 6-10, 33.

Roth, R. A. (1996). Standards for certification, licensure, and accreditation. In J. Sikula, T. J. Buttery, & E. Guiton (Eds.), Handbook of research on teacher education (2nd ed., pp. 242-279). New York: Simon and Schuster.

Ryan, A. W. (1991). Meta-analysis of achievement effects of microcomputer applications in elementary schools. Educational Administration Quarterly, 27, 161-184.

Shwalb, B. J. (1987). Instructional technology in American and Japanese schools: A meta-analysis of achievement findings. (Doctoral dissertation, University of Michigan). Dissertation Abstracts International, 48, 370A.

Smith, M. S., Fuhrman, S. H., & O'Day, J. (1994). National curriculum standards: Are they desirable and feasible? In R. F. Elmore and S. H. Fuhrman (Eds.), The Governance of Curriculum. 1994 Yearbook of the Association for Supervision and Curriculum Development (pp. 12-29). Alexandria, VA: Association for Supervision and Curriculum Development.

Stahl, S. A., & Fairbanks, M. M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. Review of Educational Research, 56, 72-110.

Stahl, S. A., & Miller, P. D. (1989). Whole language and language experience approaches for beginning reading: A quantitative research synthesis. Review of Educational Research, 59(5), 87-116.

Walberg, H. J., Schiller, D., & Haertel, G. D. (1979). The quiet revolution in educational research. The Kappan, 61(3), 179-182.

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1993). Toward a knowledge base for school learning. Review of Educational Research, 63(3), 249-294.

Waxman, H. C., & Walberg, H. J. (1982). The relation of teaching and learning. Contemporary Education Review, 2, 103-120.

Williams, W. V. L. (1990). A meta-analysis of the effects of instructional strategies delivered to the mathematically disadvantaged (Doctoral dissertation, George Peabody College for Teachers of Vanderbilt University, 1989). Dissertation Abstracts International, 51, A.

Willig, A. C. (1985). A meta-analysis of selected studies on the effectiveness of bilingual education. Review of Educational Research, 55, 269-317.

Table 1

Number of Survey Recipients and Original and Follow-up Survey Return Rates

	Survey Mailings	Returns (%)		
Professional Group	**N**	**Original**	**Follow-Up**	**Total**
AERA-Division A	498	235 (78.1)	66 (21.9)	301 (60.4)
AERA-Division C	500	237 (79.0)	63 (21.0)	300 (60.0)
AERA-Division H	499	245 (80.3)	60 (19.7)	305 (61.1)
AASA	546	227 (73.9)	80 (26.1)	307 (56.2)
CCSSO	57*	22 (56.4)	17 (43.6)	39 (68.4)
CGCS	43	21 (77.8)	6 (22.2)	27 (62.8)
NAESP	500	201 (67.9)	95 (32.1)	296 (59.2)
NASSP	498	178 (73.3)	65 (26.7)	243 (48.8)
Total	3141	1366 (75.1)	452 (24.9)	1818 (57.9)

*The CCSSO mailing was sent to state superintendents from the 50 states and Washington, D.C., the executive director of CCSSO, and the Superintendents of American Samoa, Puerto Rico, the Virgin Islands, and Manila/Philippines.

Table 2

Pearson Product Moment Correlations for Researcher and Administrator Ratings of Influence and Assessability Ratings

	Researcher Influence	Researcher Assessability	Administrator Influence	Administrator Assessability
Researcher Influence	1.00			
Researcher Assessability	-.03	1.00		
Administrator Influence	.87	-.10	1.00	
Administrator Assessability	.47	.68	.52	1.00

Table 3

Overall Average Influence and Assessability by Category

Category	Average Influence	Average Assessability
Classroom Practices	2.39	2.16
Schoolwide Practices	2.36	2.15
Design and Delivery of Curriculum	2.33	2.25
Federal, State, and District Policies	2.10	2.35

Table 4

One-Way Analyses of Variance Comparing Influence and Assessability Ratings of Professional Groups for Each Category

Dependent Variables	N	Mean Square	Probability
Influences			
Classroom Practices	1745	3.21	32.65 (.0001)
Curriculum Design and Delivery	1739	2.34	16.27 (.0001)
Schoolwide Practices and Policies	1744	5.16	47.30 (.0001)
Federal, State, & District Policies	1747	3.72	27.23 (.0001)
Total	1749	3.65	46.08 (.0001)
Assessability			
Classroom Practices	1738	.75	5.55 (.0001)
Curriculum Design and Delivery	1728	.31	1.77 (.089)
Schoolwide Practices and Policies	1737	.75	5.77 (.0001)
Federal, State, & District Policies	1740	3.04	18.36 (.0001)
Total	1744	.29	3.15 (.003)

Table 5

Average Influence and Assessability Ratings of Classroom Practice Items

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Use of appropriate task difficulty.	I	2.84	2.14
Well-organized and well-planned class activities.	I,A	2.79	2.44
Teacher provision of frequent feedback on student performance.	I,A	2.78	2.43
Clearly defined teacher expectation of content mastery.	I,A	2.77	2.34
Teacher enthusiasm about course content.	I	2.77	2.09
Presence of a variety of classroom instructional activities and content.	I,A	2.67	2.40
Teacher provision of helpful feedback to correct answers of students.	I	2.67	2.21
Teacher promotion of student inquiry.	I	2.67	2.10
Teacher "with-it-ness" (awareness of classroom events and activities and minimization of disruptions of timely and non-confrontational actions).	I	2.67	2.03
Teachers use of corrective feedback when students make an error.	I,A	2.63	2.34
Teacher encouragement of constructive student responses to classroom questions.	I	2.63	2.16
Teacher use of example and analogy to concretize abstract concepts and familiarize new ones.	I	2.63	2.13
Teacher posing of questions that are cognitively challenging.	I	2.62	2.15
Teacher use of learner accountability (maintaining student awareness of learning goals and expectations.	I	2.58	2.15
Personalized instructional strategies.	I	2.57	2.18
Smaller instructional groups.	I,A	2.53	2.43

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are Assessability averages equal to or above 2.34 are designated with an A.

Table 5

Average Influence and Assessability Ratings of Classroom Practice Items (Cont'd)

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Teacher use of group alerting (use of questioning/recitation strategies to maintain active participation by all students).	I	2.52	2.20
Teacher promotion of student use of metacognitive strategies (e.g., strategies that are used to monitor, plan and evaluate one's own performance)	I	2.52	2.08
Use of goal direction (specific and explicit objectives of learning activities).		2.51	2.33
Teacher promotion of learning through student collaboration (e.g., peer tutoring).		2.50	2.20
Clearly presented academic, social, and attitudinal program goals.		2.49	2.30
Teacher provision of sufficient time for students to generate detailed responses to classroom questions.		2.49	2.09
Cooperative learning strategies.		2.49	2.28
Discouragement of friction (Students and teacher interact in a considerate and cooperative way with minimal abrasiveness).		2.48	2.02
Lack of favoritism (equal treatment of all students and equal opportunity for participation).		2.48	1.93
Well equipped classroom (ready availability of materials and equipment).	A	2.47	2.43
Teacher use of smooth transitions (e g., avoidance of learning disruptions, closure of activities, and facility in initiating new activities).		2.47	2.13
Teacher use of scaffolding (gradual transfer of responsibility from teacher to student).		2.46	1.89
Frequent, accurate measurement of higher order thinking skills.		2.46	2.14
Teacher use of systematic sequencing of instructional events.		2.46	2.21

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are Assessability averages equal to or above 2.34 are designated with an A.

Table 5

Average Influence and Assessability Ratings of Classroom Practice Items (Cont'd)

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Teacher use of reinforcement contingencies.		2.46	2.22
Teacher selection of class content for meaningful understanding and application.		2.46	2.06
Teacher encouragement of positive verbal interactions among students.		2.46	2.06
Teacher use of direct instruction.	A	2.45	2.40
Teacher use of rehearsal and elaboration of new concepts.		2.45	2.08
Teacher use of instruction to recognize and dispel student misconceptions.		2.43	1.95
Teacher use of flexible grouping to enable students to improve and change status/groups.		2.43	2.13
Teacher posing of frequent academic questions.		2.41	2.19
Discouragement of apathy (e.g., class members are concerned and interested in classroom activities).		2.40	1.88
Peer tutoring.		2.38	2.28
Use of assessments that measure authentic, integrated real life skills.		2.38	2.14
Encouragement of cohesiveness (members of class share common interest and values and emphasize cooperative goals).		2.34	1.94
Appropriate social behaviors coached by teachers.		2.33	2.01
Use of pacing, which is appropriate for the majority of students.		2.33	2.04
Use of assessment to create detailed learner profiles rather than simple classifications or nonelaborated total scores.		2.33	2.24
Frequent, accurate measurement of basic skills.	A	2.32	2.61

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are Assessability averages equal to or above 2.34 are designated with an A.

Table 5

Average Influence and Assessability Ratings of Classroom Practice Items (Cont'd)

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Mastery learning strategies.		2.32	2.27
Frequent requests by teachers for extended, substantive oral responses.		2.32	2.13
Minimal disruption in classroom (e.g., no excessive noise, no students out of place during instructional activities).		2.31	2.22
Diagnostic prescriptive methods.		2.29	2.22
Teacher discouragement of peer rejection among students.		2.29	1.88
Teachers use of review and overview to increase redundancy of the content presented.		2.28	2.16
Encouragement of democracy (explicit involvement of all student in some classroom decisions).		2.27	1.96
Teacher use of advance organizers.		2.27	2.13
Cross-age tutoring.		2.26	2.22
Encouragement of student satisfaction with class activities.	A	2.25	2.59
Instructional teaming.		2.23	2.23
Crisis management techniques to control classroom disruptiveness		2.19	2.04
Minimum use of external classroom disruptions (e.g., broadcast announcements)		2.16	2.18
Teacher prescription of individual instruction based on perceived match of learning tasks to student characteristics.		2.16	2.16
Computer-assisted instruction.	A	2.15	2.44 2.17

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are Assessability averages equal to or above 2.34 are designated with an A.

Table 5

Average Influence and Assessability Ratings of Classroom Practice Items (Cont'd)

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Encouragement of formality (students expected to follow explicitly states rules concerning classroom conduct and activities).		2.11	2.07
Accessibility of educational program (overcoming architectural, communicative, and environmental barriers).		2.06	2.03
Teachers use of formal language during instruction.		2.05	1.93
Prescriptive instruction combined with aspects of informal or open education.		2.02	2.40
Academic tracking for specific school subject areas.		1.98	1.90
Discouragement of cliques (e.g., students work with many different classmates).		1.96	2.21
Multi-age grouping.		1.94	2.27
More students with special needs in regular classes.		1.92	2.05
Encouragement of competition among students.		1.77	

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are Assessability averages equal to or above 2.34 are designated with an A.

Table 6

Average Influence and Assessability Ratings of Schoolwide Practices

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Safe, orderly school climate.	I,A	2.84	2.41
Principal actively concerned with instructional program.	I	2.84	2.32
School policy that promotes parent involvement in improving student's school performance (e.g., ensuring completion of homework).	I	2.77	2.20
Schoolwide promotion of increased direct instruction time.	I,A	2.68	2.38
Teacher involvement in instructional decision making.	I	2.66	2.17
Schoolwide promotion of increased student time on task (amount of time students are actively engaged in learning).	I	2.63	2.22
Collaboration among school personnel.	I	2.61	2.11
Teacher and administrator consensus on school values, norms, and roles.	I	2.61	1.96
Low staff absenteeism.	I,A	2.59	2.65
Schoolwide emphasis on and recognition of academic achievement.	I	2.57	2.30
Low staff alienation.	I	2.52	1.96
Schoolwide activities to promote positive, nondisruptive social behaviors.		2.45	2.05
Effective schools program.		2.44	2.25
Teacher direction of student attention to course content.		2.44	2.13
Schoolwide activities to promote independent learning.		2.43	2.07

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are assessability averages equal to or above 2.34 are designated with an A.

Table 6

Average Influence and Assessability Ratings of Schoolwide Practices (Cont'd)

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Schoolwide activities to promote a positive attitude toward school, teachers, and subject matter.		2.42	2.09
School policy that promotes parent involvement in the delivery of the instructional program (e.g., parents assist in classrooms, the school library, field trips).		2.42	2.24
Schoolwide activities to increase student academic aspirations.		2.41	2.13
Schoolwide activities to promote perseverance on learning tasks.		2.38	1.98
Explicit schoolwide discipline policy.	A	2.35	2.47
Small school size.	A	2.34	2.56
Schoolwide activities to promote motivation toward lifelong learning.		2.33	1.98
Schoolwide activities to promote self-esteem and self-confidence.		2.33	2.08
Teacher involvement in resource allocation and decision-making.		2.32	2.13
Schoolwide promotion of increased time on homework.		2.31	2.12
Schoolwide promotion of increased out-of-school time spent by students on leisurer eading.		2.30	1.84
Low staff turnover.	A	2.26	2.43
Explicit schoolwide attendance policy.		2.23	2.23
Schoolwide activities to discourage delinquent and criminal behavior..		2.22	2.11
Explicit schoolwide grading and academic progress policies.	A	2.20	2.39
Schoolwide activities to increase student occupational aspirations		2.16	2.06

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are assessability averages equal to or above 2.34 are designated with an A.

Table 6

Average Influence and Assessability Ratings of Schoolwide Practices (Cont'd)

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
School policy that promotes parent involvement in planning the instructional program (e.g., parents review materials, help plan curriculum.)		2.09	2.02
Schoolwide promotion of increased out-of-school time spent by students in informal learning experiences (e.g., museum trips, scouts).		2.09	1.78
Schoolwide activities to discourage student drug use.		2.04	2.14
Schoolwide promotion of student participation in clubs and extracurricular activities.		2.03	2.14
Schoolwide activities to encourage friendships rather than cliques.		1.93	1.78
Minimal use of suspension and expulsion for disciplinary purposes.		1.90	2.25
Schoolwide discouragement of students spending out-of-school time viewing noneducational television.		1.85	1.58
Schoolwide promotion of increased out-of-school time spent by students viewing educational television		1.69	1.64

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are assessability averages equal to or above 2.34 are designated with an A.

Table 7

Average Influence and Assessability Ratings of Curriculum Design and Delivery Items

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Alignment among goals, contents, instruction, assignments, and evaluation.	I	2.72	2.30
Use of materials tailored to students of different developmental levels.	I	2.67	2.31
Use of materials tailored to students with different abilities.	I,A	2.62	2.34
Availability of materials and activities for use with whole classrooms, small groups, or one on one instruction.	I,A	2.61	2.37
Well-equipped classroom (readily available materials and equipment).	A	2.47	2.43
Use of materials that employ specific objectives.	A	2.38	2.36
Use of materials that include assessments and diagnostic tests.	A	2.37	2.48
Use of materials that reflect experiences of students.		2.37	2.02
Teacher's use of efficient and well-communicated classroom routines, rules, and procedures.	A	2.35	2.35
Teachers use of written records to monitor student progress.	A	2.29	2.34
Curriculum units structured around key discipline-based concepts.		2.28	2.21
Use of student interests to guide selection of curriculum content.		2.17	1.95
Availability of classroom aides.	A	2.14	2.38
Well-configured classroom space.		2.00	2.11
Use of culturally diverse materials.		1.96	2.07
Teacher development of student self-responsibility for studying and for planning activities.		1.91	1.91

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are assessability averages equal to or above 2.34 are designated with an A.

Table 8

Average Influence and Assessability Ratings of Federal, State, and District Policy Items

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Central office assistance and support for school programs.	I	2.53	2.18
Board of Education support for school program.	I	2.52	2.24
Academic course and unit requirements.	A	2.39	2.64
Higher per pupil expenditure.	A	2.35	2.46
Provision of social services for students.		2.33	2.21
Contractual limits on class size.	A	2.28	2.59
Chapter I (compensatory education) funding.	A	2.18	2.46
PL 94-142 (handicapped) funding.	A	2.16	2.43
Increased length of school year.	A	2.15	2.46
Teacher licensure requirements.	A	2.14	2.56
Increased length of school day.	A	2.07	2.37
Small school size district.	A	2.06	2.51
Degree of state control over curriculum.		2.05	2.23
Minimum competency testing requirements.	A	2.04	2.53
Title VII (bilingual) funding.		1.93	2.26
Limited school district bureaucratization.		1.91	2.07

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are assessability averages equal to or above 2.34 are designated with an A.

Table 8

Average Influence and Assessability Ratings of Federal, State, and District Policy Items (con't)

Items	Items in Highest Quartile*	Average Influence Rating	Average Assessability Rating
Contractual restrictions on activities performed by aides.		1.87	2.23
Degree of state control over textbooks.		1.86	2.22
School district decentralization.		1.85	2.19
Contractual limits on after school meetings.		1.75	2.22
Efficient transportation system.		1.73	2.22

Note: Items that have influence averages equal to or above 2.52 are designated with an I.
Items that are assessability averages equal to or above 2.34 are designated with an A.

Table 9

Fourfold Classification of Survey Items by Level of Influence (high vs. low) and Assessability (high vs. low)

Low Influence, High Assessability

Classroom Practices:
Computer-assisted instruction.
Academic tracking for specific school subject areas.

Schoolwide Practices: no items

Curriculum Design and Delivery:
Availability of classroom aides.

Federal, State, District Policies:
Increased length of school year.
Teacher licensure requirements.
Increased length of school day.
Small school size district.
Minimum competency testing requirements.

Low Influence, Low Assessability

Classroom Practices:
Teachers use of formal language during instruction.
Prescriptive instruction combined with aspects of informal or open education.
Discouragement of cliques (e.g., students work with many different classmates).
Encouragement of competition among students.

Schoolwide Practices:
School policy that promotes parent involvement in planning the instructional program (e.g., parents review materials, help plan curriculum.)
Schoolwide promotion of increased out-of-school time spent by students in informal learning experiences (e.g., museum trips, scouts).
Schoolwide activities to encourage friendships rather than cliques.

Schoolwide discouragement of students spending out-of-school time viewing noneducational television.
Schoolwide promotion of increased out-of-school time spent by students viewing educational television

Curriculum Design and Delivery:
Teacher development of student self-responsibility for studying and for planning activities.

Federal, State, District Policies: none

Classroom Practices:
Well-organized and well-planned class activities.
Teacher provision of frequent feedback on student performance.
Clearly defined teacher expectation of content mastery.
Presence of a variety of classroom instructional activities and content.
Teachers use of corrective feedback when students make an error
Smaller instructional groups

Schoolwide Practices:
Safe, orderly school climate
Schoolwide promotion of increased direct instruction time
Low staff absenteeism

Curriculum Design and Delivery:
Use of materials tailored to students with different abilities
Availability of materials and activities for use with whole classrooms, small groups, or one on one instruction

Federal, State, District Policies: no items

High Influence, Low Assessability

Classroom Practices:
Teacher "with-it-ness" (awareness of classroom events and activities and minimization of disruptions of timely and non-confrontational actions).

Schoolwide Practices:

Teacher and administrator consensus on school values, norms, and roles

Low staff alienation

Curriculum Design and Delivery: none

Federal, State, District Policies: none

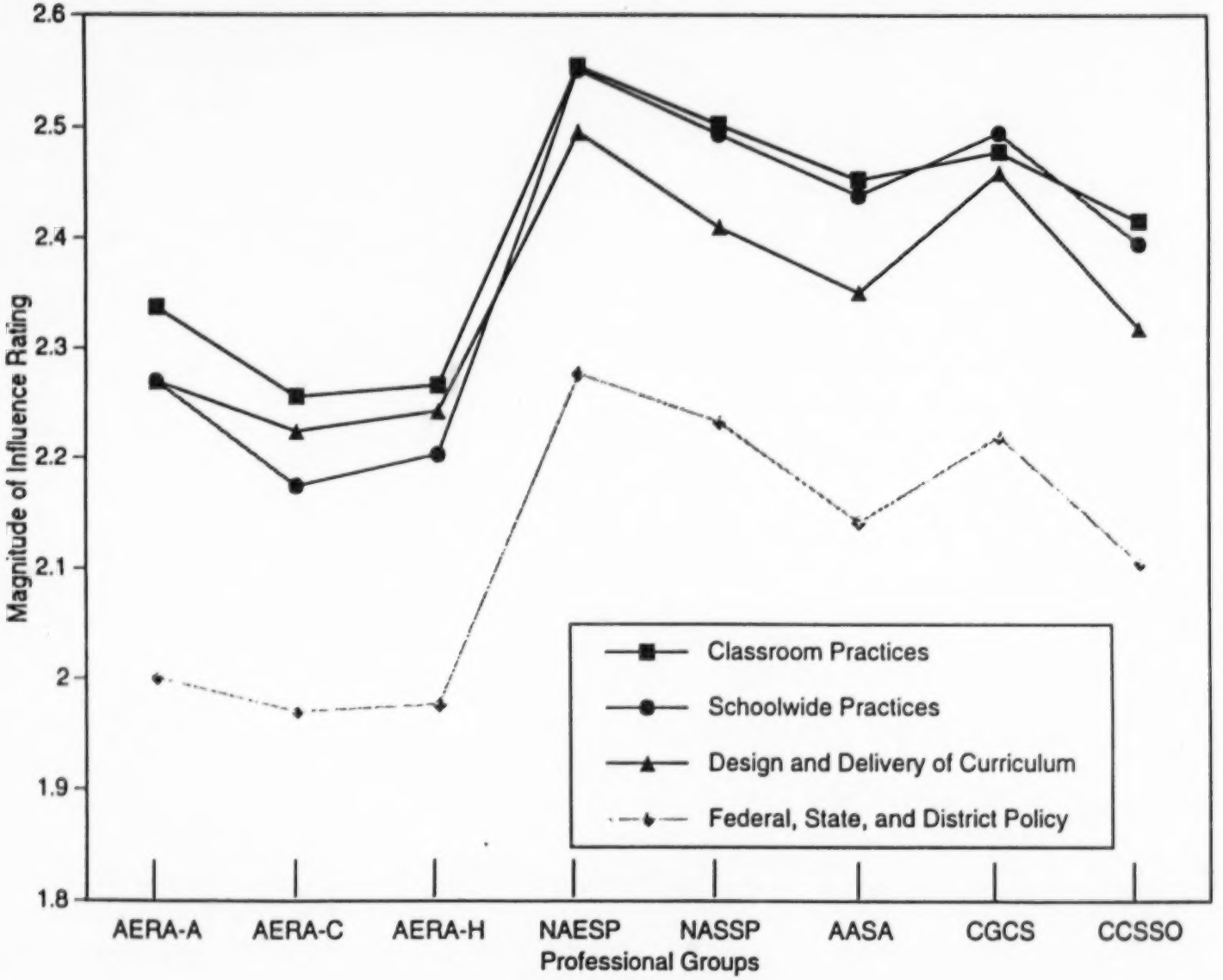

Figure 1. Average Influence Ratings for each Professional Group by Category

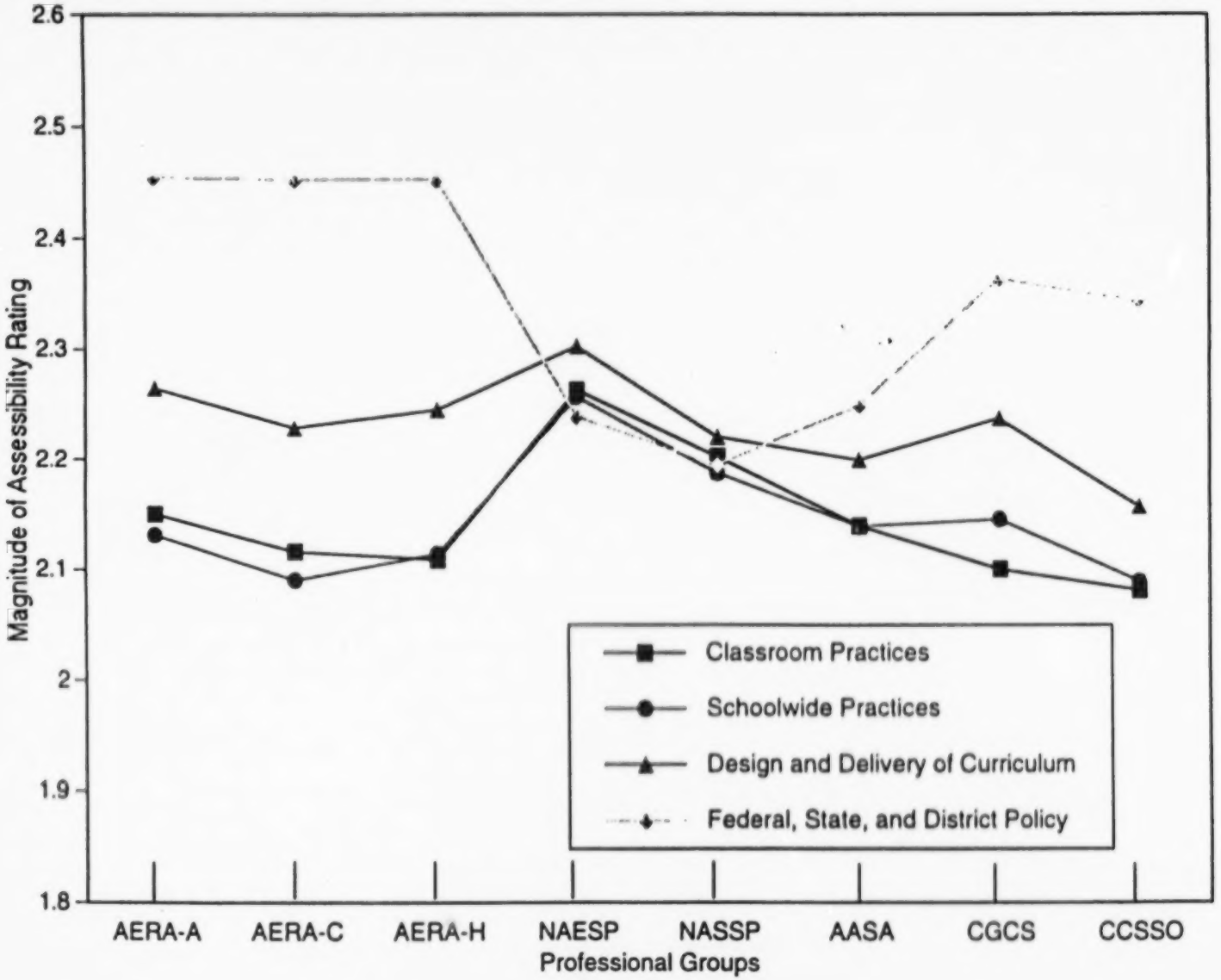

Figure 2. Average Assessibility Ratings for each Professional Group by Category

The Laboratory for Student Success

The Laboratory for Student Success (LSS) is one of ten regional educational laboratories in the nation funded by the U.S. Department of Education to revitalize and reform educational practice in the service of children and youth.

The mission of the Laboratory for Student Success is to strengthen the capacity of the mid-Atlantic region to enact and sustain lasting systemic educational reform through collaborative programs of applied research and development and services to the field. In particular, the LSS facilitates the transformation of research-based knowledge into useful tools that can be readily integrated into the educational reform process both regionally and nationally. To ensure a high degree of effectiveness, the work of the LSS is continuously refined based on feedback from the field on what is working and what is needed in improving educational practice.

The ultimate goal of the LSS is the formation of a connected system of schools, parents, community agencies, professional organizations, and institutions of higher education that serves the needs of all students and is linked with a high-tech national system for information exchange. In particular, the aim is to bring researchers and research-based knowledge into synergistic coordination with other efforts for educational improvement led by field-based professionals.

LSS Principal Investigators

Margaret C. Wang
Executive Director, LSS
Professor of Educational Psychology
Temple University

Aquiles Iglesias,
Associate Director, LSS
Professor and Chair of Communication Sciences
Temple University

Lascelles Anderson
Center for Urban Educational Research and Development
University of Illinois at Chicago

David Bartelt
Professor of Geography and Urban Studies
Temple University

Jennifer Beaumont
Senior Research Associate
Center for Research in Human Development and Education
Temple University

David Bechtel
Senior Research Associate
Center for Research in Human Development and Education
Temple University

William Boyd
Professor of Education
Pennsylvania State University

Bruce Cooper
Professor of Education
Fordham University

Ramona Edelin
President and Chief Executive Officer
National Urban Coalition

Fenwick English
Vice Chancellor of Academic Affairs
Purdue University at Fort Wayne

Patricia Gennari
Director of Special Projects
Penn Hills School District

Geneva Haertel
Senior Research Associate
Center for Research in Human Development and Education
Temple University

Penny Hammrich
Assistant Professor of Science Education, Curriculum, Instruction, and Technology in Education
Temple University

Jeong-Ran Kim
Senior Research Associate
Center for Research in Human Development and Education
Temple University

Jane Oates
Director of Services to the Field
Center for Research in Human Development and Education
Temple University

Ruth Palmer
Associate Professor of Educational Administration and Secondary Education
The College of New Jersey

Suzanne Pasch
Dean
Education and Graduate Studies
The College of New Jersey

Sam Redding
Executive Director
Academic Development Institute

Maynard Reynolds
Professor Emeritus of Educational Psychology
University of Minnesota

Timothy Shanahan
Professor of Urban Education
University of Illinois-Chicago

Denise Maybank-Shepherd
Project Implementor
LSS Extension Services
The College of New Jersey

Sharon Sherman
Associate Professor of Elementary and Early Childehood Education
The College of New Jersey

Betty Steffy
Dean
School of Education
Purdue University at Fort Wayne

Floraline Stevens
Evaluation Consultant
Floraline I. Stevens Associates

Judith Stull
Associate Professor of Sociology
LaSalle University

William Stull
Professor of Economics
Temple University

Ronald Taylor
Associate Professor of Psychology
Temple University

Herbert Walberg
Professor of Education
University of Illinois

Carol Walker
Associate Professor of Education
The Catholic University of America

Robert Walter
Professor Emeritus of Education Policy and Leadership Studies
Temple University

Roger Weisberg
Professor of Psychology
University of Illinois at Chicago

Kenneth Wong
Associate Professor of Education
University of Chicago

William Yancey
Professor of Sociology
Temple University

Frank Yekovich
Professor of Education
The Catholic University of America

For more information, contact Cynthia Smith, Director of Information Services, at (215) 204-3004 or csmith6@vm.temple.edu.
To contact the LSS: **Phone: (800) 892-5550**
E-mail: lss@vm.temple.edu
Web: http://www.temple.edu/departments/LSS